

THE
PSYCHOLOGICAL BULLETIN

TENDENCIES IN CHILD AND EDUCATIONAL
PSYCHOLOGY.¹

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It is not an easy task in these days to keep abreast of the literature treating of various phases of the theory and practice of education. America appears to be more productive in this field than any foreign country, except Germany possibly. It is a common remark of English educationists that we are moving at a too lively pace over here in matters pedagogical, with the result that there is no stability in our educational theory. New conceptions of aims, values, and methods follow one another so rapidly that it is bewildering to conservative foreigners who endeavor to comprehend them all and adjust themselves thereto. In European countries one feels that educationists are devoting themselves mainly, though not entirely, to working out traditional educational doctrines in the most economical and effective way. They are not, to any marked extent, attacking the fundamentals of the historic educational régime. But in America there are men in most of the universities, in many of the normal schools, and in some of the administrative positions who are at least clearing the way for an attack upon a great variety of basal educational problems in the spirit of contemporary biological, sociological, and psychological thought. The belief is growing very strong among us that education can and ought to be treated as a phase of biological and psychological science, and this attitude is manifest in much of the current American literature on the theory of education and the principles of teaching. This attitude seems much more marked with us than anywhere in Europe, not excepting Germany; though German educationists have said to the writer that while America led in educational research a few years ago, still at the present

¹This number, dealing especially with child and educational psychology, has been prepared under the editorial care of Professor O'Shea.

time their country is ahead and will continue to lead in the future. But we may perhaps derive a little comfort from the fact that the Germans, many of them, know almost nothing about what we are doing, while a very large proportion of our men who are developing educational theory have studied German institutions and achievements at first hand.

It can hardly be questioned that in the study of the child Americans are more active than any other people. European psychologists and educationists are still quite commonly satisfied with the naïve, traditional view of the child-mind. Speaking generally, children are regarded as miniature adults, and it is not considered of importance to study them seriously according to scientific methods, though there are some notable exceptions in Germany, France, Italy, and England. But many of the psychologists in the universities and normal schools can not understand what 'child-study' in our country is all about; they do not yet see the need of paying any special attention to children, for whatever is peculiar about them may be apprehended by the operations of 'common sense.' But with us, development is now almost universally regarded by students of the subject as a process of continual transformation or even metamorphosis, rather than mere expansion; and educationists are convinced that they can not discover the thoughts, emotions, attitudes, and impulses of a boy of five, say, by simply turning their vision in upon themselves. The boy must be observed as a natural object in all his reactions; and he must also be subjected to special stimulations, so that his responses can be accurately determined. Most educationists among us are now students to some extent of children or of the theories of child development, and educational writing is to a constantly increasing degree reflecting the developmental attitude.

We have, of course, been passing through stormy times in the child-study movement, in respect of the criticisms made upon the methods of conducting the work. The outcome has been that there is less of the spectacular element in it now than there was a few years ago. Enthusiastic teachers are not quite so eager to announce the 'results' of their hasty excursions into the field of mental development. But the decline in pyrotechnical display does not indicate the termination of the movement by any means. On the contrary, so many persons are working quietly but conscientiously in the spirit of the movement that it has ceased to be a novelty, and it does not longer attract special attention. Then, educationists are settling down to their investigations in a serious way, and not striving for immediate generalizations, such as were easy to obtain when students made use mainly of

the 'syllabus' method. In the use of this method they could readily tabulate their returns, construct their curves, and proclaim their discoveries. There is some of this sort of thing yet, it is true, but no one pays much heed to it. It should be recognized, though, that the study of children has been carried on almost wholly by educationists, and teachers actually in service, and practical needs have exerted a marked influence upon investigation. Children were being trained, and very badly, too, people had come to feel; and the motive for studying them, always present with the investigator, was to discover better ways of handling them. Being a practitioner, the investigator could not divest himself of his peculiar views and his desires developed in his practical work. The teacher immersed in practical work cannot have a perfectly open mind; he must have some quite settled beliefs or he could not act at all. So the teacher-student of children made his little studies mainly, though always unconsciously, for the purpose of getting a respectable argument to support his practical attitudes.

But to-day the practitioners are not so active as they were, and men who are removed from the immediate necessities of practice are doing the work in the main. This is the case almost entirely in foreign countries, according to the observations of the writer. And we are coming to attach most importance to the observation of individual children for long periods, as Chamberlain¹ and Major,² for instance, have recently done, rather than to the study of large groups of children for brief periods, though so prominent a student as Thorndike³ makes use of the latter method altogether. We seem to be reaching a point where we realize that what is wanted is faithful records of the changes which take place with development in the attitudes and reactions of individuals under varied environmental conditions. These records can probably best be made by skilled observers who follow a child or a group of children for several years, taking account of developmental changes from day to day or week to week. Experiments upon children *en masse* cannot be of great service unless we have a good body of these individual records or life histories.

We are beginning to realize apparently that careful biographies of children in respect of a variety of activities, as, for instance, the æsthetic and the linguistic, to which the Germans have given most attention, will be of greatest service. Cross-sections of development in respect of any trait have little meaning except when we have the

¹ See his 'Studies of a Child,' reprinted from the *Pedagogical Seminary*.

² *First Steps in Mental Growth*.

³ See his *Educational Psychology*.

whole developmental process before us. There is no significance, for education at any rate, in an isolated fact of child-nature; we must know what preceded it in the causal series, and what it leads into. The books on child-development that have recently met with favor among educationists have endeavored to present the facts of development in their sequential and causal relations. It appears that the authors of these books have actually lived with the children they studied, so that they could observe minute developmental changes, and this is what promises to be of most service to education. A man who stays in his office and sends out his helpers to collect statistics can hardly treat mental development in a really satisfactory manner. It is a long and laborious business to keep a psychological record of a child or a group of children year after year; but in no less strenuous way can results be obtained of real value for either developmental psychology or education.

Turning now to educational psychology, it is apparent that the important current literature in America on educational theory and practice is written in the spirit of contemporary psychology, as expounded by such writers as James, Baldwin, Hall, and Dewey. The philosophical and logical modes of attack upon educational problems, still prominent abroad, are being rapidly abandoned here, although Professor Horne entitled his recent book *The Philosophy of Education*. But his treatment of the subject is rather from the standpoint of contemporary science than from that of philosophy. His point of view is quite different from that taken in Rosenkranz's *Philosophy of Education*, for instance, or a more recent German book, Natorp's *Allgemeine Pädagogik*, or a very late English book, Raymont's *Principles of Education*. As the philosophical attitude is being abandoned in our country, so is the logical in even a more complete manner. One would be surprised to see such a book brought out in America as Welton's *Logical Bases of Education*. We seem to be losing interest in all theorizing which is not based directly and very evidently upon a close study of educational processes at first hand, and in the light of current psychological conceptions. What I have in mind is illustrated very well in Bagley's *The Educative Process* and Thorndike's *Principles of Teaching*. In these books as types, one feels the psychologist working as a naturalist works, and handling in a concrete, vital way all the data of education within the field he attempts to cover. It is this study of the educational process as a phase of dynamic psychology that is coming to be characteristic of American educational activity.

A few years ago it was the popular thing for writers on educational theory to present at the outset a more or less formal system of psychology, and then make applications to teaching. Thus perception, for instance, would be treated in the fashion of the text-books on psychology, and then would follow some advice on 'Training the Senses.' Next memory would be discussed, and its education would be outlined; and so on through all the intellectual, affective, and volitional processes. A few of our educational writers still cling to this method of treatment, but it is doubtful if their books arouse much enthusiasm or gain many followers. Such work, it is coming to be felt, does not have the true ring; it is, in sum, *formal*. This sort of thing is still prominent in European books on 'Psychology Applied to Teaching,' but it can not endure much longer with us, except in the mechanical type of normal school, where nothing will be tolerated that is not perfectly systematized and formal and easily memorized.

There is a conviction developing among educationists that unless a teacher can have a good course in general psychology, so that he can push clear through the mere classificatory and definitional stage, and actually see his psychological principles illustrated in the activities of people about him — unless he can get into the attitude of the naturalist — he had best not study formal psychology at all. It will rather hinder than help him in dealing effectively with the people whom he must teach. Instead of observing their reactions and noticing how influences affect them, he will try rather to make everything fit into the formal schemes of his text-book. His definitions will stand between him and his students, so that his study will not make him at all more effective in dealing with any concrete psychological situation. Even if he learns verbatim all the 'Applications' in these books, he can never make out how they apply, assuming that they have worth, which is at least questionable in many cases. It is this belief which is turning educationists away from the applied psychologies, and inclining them to go straight to the school-room, and study in the psychological spirit the reactions of pupils upon various studies and methods.

Recently something of a stir was created among educationists by the appearance of Thorndike's *Educational Psychology*, for this promised to make the treatment of educational problems far more precise and definite than they had been treated previously. It was proposed to apply to all such problems the methods of exact science. Accurate quantitative measurement was to be substituted for the more or less skillful guess-work which was current in educational writings. Theoretically it would be possible by the employment of these exact

methods to develop a genuine science of education, whose propositions would have as high a degree of certainty, perhaps, as the principles of botany or zoölogy. In short, it was proposed to *measure* mental traits and changes as affected by educational processes, instead of simply estimating them. But it is significant that the author in his admirable *Principles of Teaching*, just published, abandons his exact methods almost entirely, and relies upon the method of observation of educational phenomena, and interpretation in view of current psychological conceptions of developing human nature. In the exercises he sets students he does not ask them to measure quantitatively the trait to be studied; he directs them rather to note carefully the reactions of pupils in reference to the particular matter designated, and to generalize the fact observed in this way, with principles of action already established. This point is mentioned here since it seems to show that we are not yet ready for a mathematical treatment of educational processes, even though this should be desirable, which is doubtful in the opinion of the writer. For purposes of practice, at any rate, the statistical handling of education leaves the student ill-equipped to deal with actual children, unless it be vitalized with much direct observation of pupils in their daily activities. And then the statistical method may appear to yield greater accuracy than it really does, for the statistics are not likely to cover all manifestations under all conditions of the trait studied. The most we can expect from this method is that it will supplement the method of observation of pupils continuously during a considerable period, so that traits may be followed some distance in their developmental career. In this way only can the really significant traits and changes in the pupils be observed, and the influence of educational agencies be appreciated.

We appear to be forsaking another mode of treating educational psychology which has been much in fashion during the past decade. A few years ago educational psychologies quite generally presented chapters on the nervous system as the basis of mental activity. It was thought the teacher would be helped to understand the reaction of the pupils under educative stimulation if he was made familiar with some of the leading principles of physiological psychology. However, it was not shown how these principles were to be taken into account in the teaching of any topic in the class-room, or in any matter of discipline. It is doubtful if the authors of these teacher's psychologies themselves saw the bearings of physiological psychology on teaching. They seldom had anything to say about school-room hygiene, so that as a matter of fact all the study of the nervous system was useless as

far as its value to the teacher in his special needs was concerned. We are seeing this to-day, and are beginning to leave neurology out of our educational books, except when it will help in some particular situation, as in understanding and dealing with abnormal mental manifestations, as in fatigue, etc.

School education stands most in need now of studies made according to the methods of contemporary psychology on the learning of the various subjects taught in the schools. A few years ago Dewey and McClellan published a monograph on the psychology of arithmetic, and since then a number of studies have appeared at home and abroad on the psychology of learning in general, and the psychology of language in particular, especially reading and spelling. But, all told, the work has been fragmentary and altogether incomplete. Many of the branches taught in the schools from the kindergarten through the university have not been touched at all by the psychologist. There is a vast work here for psychologists interested in the practical problems of education. They might do for teaching what the scientists in experiment stations do for agriculture. There is no reason why psychology should not aid in answering the question, How will the individual most economically and effectively make the adjustments which he is expected to make in his arithmetic, his geography, his grammar, and all the rest? Every university and normal school ought to have a staff of educational psychologists working on the practical problems of teaching the studies economically and effectively, so that teachers might get their methods from them instead of from the sources through which they are now supplied.

PSYCHOLOGICAL LITERATURE.

SCIENCE AND PHILOSOPHY OF EDUCATION.

The Philosophy of Education. HERMAN HARRELL HORNE. New York, Macmillan Co., 1904. Pp. xvii + 295.

The Psychological Principles of Education. HERMAN HARRELL HORNE. New York, Macmillan Co., 1906. Pp. xii + 293.

The Principles of Teaching. EDWARD LEE THORNDIKE. New York, A. G. Seiler, 1906. Pp. xii + 293.

The Science of Education. RICHARD GAUSE BOONE. New York, Scribners, 1904. Pp. xiii + 407.

Dynamic Factors in Education. M. V. O'SHEA. New York, Macmillan Co., 1906. Pp. xiii + 320.

The Educative Process. WILLIAM CHANDLER BAGLEY. New York, Macmillan Co., 1905. Pp. xix + 358.

Notwithstanding the contentions of some recent scholars that there is not and never can be a science of education, there is at the present time no more abundant field of activity in the academic world than that cultivated by those who evidently believe in such a science. Moreover, the literature being produced is commanding the attention of scholars and laymen to a remarkable degree. Barring certain sociological and economic questions there are none which find readier access to the popular magazines than those upon education. Many of these articles are written from a scientific point of view rather than from the purely popular. Educational principles are being sought from the realms of sociology, psychology, philosophy, physiology, biology and religion. The past biennium has witnessed a large output of decidedly valuable books along the newer lines of educational theory.

Professor Horne has given us two valuable books, the first an outline of the whole field of educational philosophy, and the second in the more limited field of the psychological principles of education. The first book is divided into five sections: 'The Biological Aspect of Education;' 'The Physiological Aspect of Education;' 'The Sociological Aspect of Education;' 'The Psychological Aspect of Education;' and 'The Philosophical Aspect of Education.' This book, though an outline, is not an elementary one and is unsuited as a

text-book for beginners, as I have found from a trial with a large class. It should be taken up by advanced students and regarded as a summary and a statement of generalizations after the whole field has been covered in a more concrete and elementary manner. Thus far no book has been published which meets just this need. Lectures and a search through the rich and voluminous literature must be the means of entering, until some one with patience and balance of mind will bring together the best that has been contributed and place it in interesting and usable form. Elementary students say that Dr. Horne's first two chapters on the biological and physiological aspects of education are the most easily comprehended. This is interesting, since in the preface Dr. Horne disclaims any authoritative knowledge of the fields of biology and physiology, but claims to be more at home in philosophy and psychology. It shows clearly how prone we all are to become abstract as we progress in knowledge and to assume as teachers that the elementary principles are possessed by beginners as well as by ourselves.

Dr. Horne correctly foresaw that his main contribution in this volume would be to "the definition of the conception of education . . . in a certain large and systematic unity, herein introduced into the hitherto unshapen notion of what education is and means in human experience; in the analysis of the spiritual environment of the pupil together with the attempt to vindicate on sociological and psychological grounds the equal right of æsthetic, with physical, intellectual, and moral education, as contained in chapters IV. and V.; and in the induction of the Kantian ideas of God, Freedom, and Immortality, from educational rather than ethical, facts, as presented in the final chapter."

As is the case in teaching all concepts, the concrete materials leading to the induction should precede the generalization, and as analysis should precede synthesis, so we may regard this book as an outline for the advanced student, one which will be helpful to the teacher as a handbook continually near by to point the way, to give poise and balance.

Dr. Horne's second book is a more elementary treatise and may well serve as an introductory work. The style is simple and is easily intelligible to junior and senior students in college classes and to advanced students in normal schools. The book is divided into five parts: The introduction deals with various sub-topics relating to the question of the meaning of the science of education. Part II. is entitled, 'Intellectual Education, or Educating the Mind to Know.' This part contains eight chapters, namely, Opening the Windows of Con-

sciousness; Educating the Mind to Perceive; The Educational Uses of the Apperceptive Processes; Aiding Memory; Educating the Imagination; Stimulating the Mind to Conceive; Training the Mind to Judge; and Teaching to Reason. Part III. is entitled 'Emotional Education, or Educating the Mind to Feel.' This part contains a description of the feelings and a discussion of the principles of emotional education. Part IV. is entitled, 'Moral Education, or Educating the Mind to Will.' As will be seen from the chapter headings in this part, he deviates from the old transcendental philosophy of the will and regards it from the genetic point of view. The chapters are, The Field of Will; The Use of Instincts in Educating; Training the Impulses; The Place of Imitation in Education; Educating by Suggestion; Forming Habits; Deliberating and Choosing; and Securing Attention. Part V. deals with the various questions relating to 'Religious Education, or Educating the Spirit in Man.'

Dr. Thorndike's book on *The Principles of Teaching* gives the same evidence of vigor, virility, and originality that characterize all his other writings. The book does not represent an absolutely logical system of pedagogical knowledge, such as some methodists might desire. It is far better, however, since the author has selected essential principles which every teacher ought to understand and which need to be taught because not self-evident. Platitudes which might have given the book a systematic appearance have been omitted and the space occupied by things in which teachers need instruction.

Although very positive in style, the appearance of dogmatism has been happily avoided by the introduction of much concrete material and experimental evidence. The book is largely written upon the inductive plan, and many of the generalizations which the author desires to impress thoroughly are not directly stated, but the student is led to them by the questions asked and exercises given for observation and experimentation. In his preface he appropriately says that "Scientific principles are the back-bone of knowledge of teaching but concrete exercises are its flesh and blood. For the work of the student of teaching is to get practical control of principles by using them. The author offers no excuse for using over a third of his pages for such exercises: indeed, they should occupy more than two thirds of the student's time." Dr. Thorndike has drawn very largely from the results of his own investigations for the facts upon which he bases his conclusions. Many of the conclusions stated in his *Educational Psychology* are here put in more usable form for beginners. Dr. Thorndike is doing much to disprove the assertions that there is no science

of education and that psychology has nothing practical to offer to the teacher. He not only believes in education as a qualitative science but is proceeding more swiftly than some can keep up with that it also has a quantitative aspect. It may be difficult to prove that we may "measure ability to add or to spell or to translate Latin or to discriminate colors as accurately though by no means as easily as we can height or weight." (Thorndike, *Educational Psychology*, p. 4.) But work such as Dr. Thorndike is doing will help to demonstrate rapidly that educational science may be as easily quantified as much of biological science, geological science, or even physical science. It is easy to forget that all sciences are much more qualitative than quantitative. Take away the qualitative aspect and most of that which makes sciences interesting disappears.

After briefly discussing The Teacher's Problem, and Psychology and the Art of Teaching, he discusses in a very helpful manner the subject of Physical Education. Dr. Thorndike has called attention in a striking way to the absolute necessity of a better recognition of native difference among children and of adjusting school work to fit individual needs and capacities. He says (p. 71), "The amount of differences actually found in children of the same age or in children in the same school grade is greater than teachers perhaps realize. The range of ability in school children of the same age is such that in a majority of capacities the most gifted child will, in comparison with the least gifted child of the same age, do over six times as much in the same time or do the same amount with less than a sixth as many errors."

The chapters in which Professor Thorndike has given the most original contributions perhaps are: Instincts and Capacities, and closely correlated with it the ones on Individual Differences; Motor Expression; Motor Education and Formal Discipline. There are chapters on Apperception; Interests; Attention; Principles of Association; Principles of Analysis; Reasoning; Responses of Conduct; Moral Training; Responses of Feeling; and The Scientific Study of Teaching.

Professor O'Shea's book on *Dynamic Factors in Education* is a treatise upon a special phase of educational science rather than a general outline of the whole subject. It is admirably suited to be a handbook for advanced classes, who desire to pursue special topics exhaustively, by first reading a guide-book and then following up the literature of the subject. The ample references and well-selected bibliography make it well suited to this. The style is so clear and the treatment so concrete and inductive that the general reader will understand most of

it. Beginners in educational courses would not have special difficulty in understanding the discussions, and it would be a good text for the last third of a first year's work in the principles of education. Professor O'Shea modestly states that "Many, perhaps most, of the principles presented in this volume are, I think, becoming familiar to students of mental development." He rightly observes further that these principles 'are still very hazy, to say the least, in the minds of the majority of those who are charged with the immediate care and culture of the young.' These principles are, however, undreamed of by the rank and file of teachers, and still less are they known to parents, who really determine what manner of men and women their children shall be.

The chapter headings indicate very well the general plan and scope of the book. They are as follows: The Development of Inhibition; Dynamic Education; The Dynamic Aspect of School Studies; Manual Activities in Education; The Method of Acquiring Adaptive Activities; The Method of Acquiring Imitative Activities; The Teaching of Schoolroom Arts; Development of Coördinated Activities; From Fundamental to Accessory; The Energetic Factor in Education; The Influence of Fatigue on the Efficiency of Mind and Body; Economy in the Expenditure of Energy; The Effect of Aesthetic Influences upon Mental Tension; Some Common Wasteful Practices (including a consideration of fine work, poor pens, unhygienic writing, overstimulation, the teased child, etc.); The Eyes in Relation to Nervous Waste.

Although the above topics are understood by specialists, Professor O'Shea has made a real contribution by sifting out the important principles from a mass of undigested materials in the periodical literature, placing these in concrete, usable form, and adding a wealth of illustrative matter from observations and experiments of his own. Inasmuch as one of the principal reasons why there has been such slowness in acknowledging a science of education is that the relation between perfectly obvious psychological and biological laws and education has not been seen, one of Professor O'Shea's chief contributions is in selecting those laws and phenomena that have an educational application and clearly showing the application.

Dr. Boone's *Science of Education* is a book for mature students rather than for beginners in educational theory. Persons who have taken preliminary courses with abundant concrete material will find this an admirable generalization of the ideas which should have been developed inductively. The book is a splendid epitome of Dr.

Boone's oral presentation which abounds with a wealth of concrete illustration drawn from a long and varied experience in educational work. The volume is an interpretation of the meaning and problems of education rather than a discussion of methods of approach to practical problems. It is more concerned with the *what* of education than the *how*. This book in reality represents one phase of the science of education instead of the whole realm. Very little attention is devoted to the biological, neurological and physiological phases, questions which have justly been emphasized by Thorndike, Horne, Halleck, and O'Shea. Dr. Boone's main discussion is upon the social phase of education. To give a certain symmetry the other questions are included, but not at all fully. In this volume the whole process of education is treated largely as a social question.

The book is written in a style which again exemplifies Dr. Boone's splendid power in using the English language beautifully and effectively. Like his oral presentation of any subject, the language which he employs possesses a charm never to be forgotten by those who gain his acquaintance.

Dr. Bagley, in *The Educative Process*, has produced a book which, as stated in the preface, is intended to present a systematic and comprehensive view of the task that is to be accomplished by the school. It covers the field commonly included under the terms General Method, Method of the Recitation, Theory and Practice, etc.; but it deals with principles rather than with the details of device and 'method.'

Dr. Bagley has written a very readable book. The topics discussed are treated in a thoroughly scientific manner and will form a valuable addition to the literature of these topics. The principles enunciated do not represent new discoveries, but the treatment is fresh, vigorous and independent. The contribution in this book lies in the careful selection of biological and psychological principles which have educational bearings, and which can be seen as such by the average teacher. Sufficient conservatism has been shown in the selection of data from other sciences. Dr. Bagley states that care was taken 'to utilize only those data of psychology and biology that are vouched for by reputable modern authorities in these fields.'

The question arises whether there is not a variance between the assumed scope as stated in the preface and the book itself. The title is more suggestive of the contents than is the preface and more so than many of the publishers' notices have been. Judging by the classification made in the recent deliberations of the Society of College Teachers

of Education, fully half of the work belongs to the principles of education and educational psychology, rather than to method. The title also bears out this comment. An enumeration of the chapter headings shows that most of the work represents the fields above indicated. The chapters are as follows: Education Reduced to its Lowest Terms (in which he discusses instincts, reflexes, heredity, transmission of acquired characters, meaning of education, etc.); The Function of the School; The Ethical End of Education; The Reading of Meaning into Sense Impressions or Apperception; The Needs of the Organism as Determining Apperception or Degrees of Apperception and Apperceptive Systems; Attention, Interest and Will in the Light of Apperception; Experience Functioning as Habit; Experience Functioning as Judgment; The Condensation of Experiences and the Formation of Concepts; The Organization of Experiences through Conceptual Judgments; The Factors of Efficient Recall; The Functioning of the Factors of Recall as Modified by the Periods of Child Development; Formal versus Intrinsic Values of Experience and the Doctrines of Formal Discipline; The Development of Ideals as the Chief Work of Education; The Intrinsic Value of Different Types of Experience; The Transmission of Experience in the Concrete or Imitation and Objective Teaching; The Transmission of Condensed Experience or Development and Instruction; The Media of Instruction; The Inductive Development Lesson; The Deductive Development Lesson; The Study and the Recitation Lesson; The Drill, the Review, the Examination Lesson; The Hygiene of the Educative Process.

The above list of books represents the science, philosophy, or principles of education, whichever, I believe, one may choose to term it. The books deal with principles rather than devices, with the theory rather than the practice of education, and with scientific knowledge of the child rather than with subjects of instruction. There has been great need of scientific work in this direction, and education can never be upon a firm foundation until it rests upon scientific laws and principles rather than upon tradition. The foregoing group, no doubt, is an earnest of what will appear in the near future. These books are not final, but a highly creditable contribution to the elements of the subject.

We should, of course, include in the list of important educational books of the biennium, Hall's monumental work on *Adolescence*, Cubberly's work on *School Funds and Their Apportionment*, Monroe's splendid *Text Book in the History of Education*, Dexter's *History*

of *Education in the United States*, Brumbaugh's *Making of a Teacher*, the *Reports of the Commissioner of Education*, and the *Proceedings of the National Educational Association*. Taken collectively, the list of books on education produced during the last bienium in America alone, will certainly compare favorably in quantity and quality with the publications in any other field of thought.

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SOME RECENT CHILD-STUDY AND EDUCATIONAL LITERATURE IN PORTUGUESE, SPANISH AND ITALIAN.

I. PORTUGUESE. — A notable educational contribution is Bernardino Machado's *A Universidade de Coimbra* (Coimbra, 1905, pp. 233), dedicated to 'the academic youth' of Portugal. The author is professor of anthropology in the University of Coimbra and has been minister of education and agriculture. He has also published an interesting child-study monograph, *As crianças; Notas d'um pae* (A Father's Notes on Children), which saw its second edition in 1904, besides several volumes on educational topics, 1898-1904. The volume now under review contains academic discourses, graduation and other addresses to the student body, etc., and abstracts of six lectures on pedagogy delivered in the University of Coimbra in January-March, 1900. The reading of the material here presented must surely convince anyone that Portugal, with its historic University, is not dead educationally, but very much alive.

The key-notes of Professor Machado's pedagogical lectures may be given in the following sentences: Teaching is a social function, a work of dedication and sacrifice. A bad citizen and a good teacher are incompatible. Teaching is socialization. Man is to be educated for sociability, for coöperation, for virtue, not for struggle; for a condition of peace, not for a state of war. Education through science is part of the great work of social organization characteristic of the modern era. Ideal education and ideal government are one and the same. There is an attraction of souls in the moral world of to-day like the physical attraction of gravitation in the material realm. Patriotism is doubtless a right, but internationalism is at the same time a duty. There is no school within the four walls of a room. School

is family, society. Education can never be imprisoned. An admirable instance of social dedication is seen in the movement for 'university extension.' In the volume is included the remarkable address, 'A Universidade e a Nação' (University and Nation), delivered as an Inaugural at the beginning of the academic year 1904-1905, which may indeed take rank with any similar pronouncement of recent years in the old or the new world. It is an able and eloquent plea for the university as a democratic laboratory, where the highest place, at some period, falls to each, where ideas are created, not merely consumed. If the university is isolated socially and politically it is dwarfed, narrowed and limited in its usefulness for humanity. Divorce of the scholar and the citizen makes less of both. Their greatest strength lies in unity in the same individual.

Another interesting Portuguese work is Dr. F. Adolpho Coelho's extensive monograph, *Exercícios corporaes e desenvolviment physico* (Bodily Exercises and Moral Development), the first section of which is published in the *Boletim da Direcção Geral da Instrucção Publica* (Lisbon, 1905, Vol. IV., pp. 369-440). The author is professor of Romance philology and pedagogy in the Higher Literary Course, and also a folklorist of distinction. The first part, which is historical and critical, will treat of doctrines and facts. The second, theoretical part, will consider the relations between health of body and health of mind, movement and will, the moral will, conclusions. To judge from the first section of the first part, dealing with the history of the subject, Professor Coelho's monograph will be perhaps more extensive in scope than any existing work on this important topic. A list of writers, etc., considered will indicate this: Plato, Aristotle, Quintilian, Seneca, the Portuguese king Duarte, Paolo Vergerio (the Italian humanist, author of *De ingenuis moribus*, 1402-1404), Vives, Montaigne, Locke, Rousseau, Kant, Pestalozzi, Gutsmuths, Jahn, Ling, Amoros (author of a *Manuel complet d'éducation physique, gymnastique et morale*, (1848), Schleiermacher, Christian Palmer (author of *Pedagogia evangelica*, 1852), Dr. A. Sargent, Delsarte, Herbert Spencer, Herbart, Hermann Schiller and Otto Willmann, T. Ziegler, O. Gréard, H. Marion, J. Payot, F. Thomas, P. Tissié, H. Wickenhagen, the Dominican Père Didon, Konrad Koch, F. A. Schmidt, G. Demeny, Pierre de Coubertin, etc., etc.,—the author's reading is wide enough to include Gulick's article in the *Popular Science Monthly* for 1898. The contributions of Portugal to the literature of physical education are very interesting. Professor Coelho calls attention to the fact that in the years 1790 and 1791 appeared two books with the same title,

Tratado de educação physica dos meninos, the first by Francisco de Mello Franco, the other by Francisco José d'Almeida. In 1872 a professor of the Lyceum of Evora, since then of Coimbra, published a volume on *Erros e preconceitos da educação physica*. A notable Portuguese work is the *Ensinança de bem cavalgar* (Training the Good Cavalier) by king Duarte, who was also the author of the *Leal Conselheiro*, at the close of the fifteenth century.

II. SPANISH.—The article of Professor P. Dorado, of the University of Salamanca, on 'Educación coreccional' (*Bol. Inst. Libre Enseñ.*, Madrid, 1905, LXXIX., pp. 257-264) consists of two chapters from his recent book, *Nuevos derroteros del derecho penal*, which treats of the new methods of dealing with youthful delinquents—the educational, protective and correctional (not retributive or punitive) idea has replaced the older criminal legal processes. Children's courts, special schools, opportunities for play and recreation, chance and occasion to be as other children and youth, the things that make for growth, health and the love of life and its normal activities. C. Bernaldo de Quiros, *Criminalogia de los delitos de sangre en España* (Madrid, 1906; pp. 130), highly praised by Havelock Ellis, is interesting, as sharing in the evident reaction against the neglect of education as a factor in the diminution of crime. While it is certain that the saying, 'open a school, close a jail,' has been made to signify too much in matters criminological, the reaction against it has gone too far in some quarters. The most criminal region in Spain is Logroño, which, as Havelock Ellis (*J. of Ment. Sci.*, 1906, p. 591) has pointed out, is the center of the great Riojan wine-district, a fact that may have some significance. It may also be significant that the least criminal parts of the country as studied by the author are the Balearic Isles, Orense (adjoining the north of Portugal), and Basque Guipuzcoa. In some other things, too, the somewhat primitive Basques have a good reputation.

At the reorganized University of Havana in Cuba is published the *Revista de la Facultad de Letras y Ciencias* (Vols. I.-II., 1905-1906), three numbers yearly. Considerable space is occupied by articles relating to Cervantes and *Don Quixote*, in connection with the three hundredth anniversary of the appearance of that famous book, and by an account of the schools of St. Louis (Mo.), resulting from the World's Fair; by anthropological and historical articles, etc. There are articles on school-houses by Dr. J. M. Dihigo, 'Informe sobre fabricación de casas escuelas' (Vol. II., pp. 221-237), and Dr. A. Castellà, 'La mansion escolar en Cuba; Necesidad y medios de

mejorar su condición actual' (Vol. II., pp. 238-252). In an article on 'Las modificaciones del actual sistema de Enseñanza' (Vol. II., pp. 282-293), Dr. A. Rosell, who holds that 'the teacher is the chief support of democratic governments,' advocates improvement of conditions, establishment of normal schools, and 'vacation schools' for teachers, and the reorganization of education somewhat after the manner of the recent changes at the University of Paris.

The newly-established *Archivos de Pedagogia y Ciencias afines*, of which the first number is dated June, 1906, is the organ of the Pedagogical Section of the Faculty of Juridical and Social Sciences of the National University of La Plata, in the Argentine Republic. The editor is V. Mercante, who contributes an article on 'Investigaciones craneométricas en los establecimientos nacionales de La Plata' (Vol. I., pp. 41-79), in which are given details of the head measurements of 652 boys and 549 girls between 6 and 20 years of age, pupils in the National College, the Normal School and the Graded Annexed School, of nationalities (in one school the parentage of the pupils included Spanish, Italian, Oriental, French, Belgian, Russian, Greek, English, Swiss, German, Portuguese, Brazilian, American Indian, Argentine) corresponding to the very mixed condition of the population. The dominant type is the brachycephalic and mesocephalic; both cranial diameters grow from 7 to 18 years, but in different proportions: females are more brachycephalic than males; the cephalic indexes range all the way from 70 to 92. These data are a welcome addition to the material of an anthropometric nature from Spanish America. In an article on 'La intensidad de las percepciones en los niños' (pp. 80-91), R. Senet, professor of anthropology in the Pedagogical Section of the University, discusses the gustative, olfactive, muscular, tactile, thermic, ocular perceptions of children, and their differences from those of adults, and seeks to explain the greater intensity of the former by the fact that in the child and the adult the same number of peripheral elements exist, and, neoformation of nervous elements being ruled out, the receptive periphery of the child is less than that of the adult, and with equality of stimuli from without a larger number of elements are excited in the child, more intense sensations, and, as a result, perceptions in accordance with these sensations. In a brief article (pp. 107-108), Professor J. Ingenieros discusses the 'Psicología del éxito' (Psychology of success): "Glory is the alcohol of the elect; the first time it intoxicates, thereafter it becomes an absolute necessity." It has many forms but all are the same in effect: the word of an esteemed teacher, the applause of the crowd, the conquest of a beautiful woman. It is the

best lubricant for the heart. It exalts, hypertrophies personality. But slow science is not yet able to assure this potent drug to all, not even to the man of genius, whom it might often cure of his many ills. In a circular letter to his colleagues on 'Promoción universitaria y exámenes' (pp. 109-111) Dr. R. Rivarola, Dean of the Faculty of Juridical and Social Sciences, notes 'the discredit into which examinations as a test of ability have fallen in all grades of education,' and proposes the abolition of such as may be made within the law. Professor Mercante, the editor of this journal, is also the author of a previous volume, *Psicología de la aptitud matemática del niño* (Buenos Aires, 1904; pp. xii, 391), containing the results of an immense mass of painstaking experiments and other data concerning the mathematical abilities of school children. A second section of this extensive work, *Enseñanza de la aritmética* (pp. iv, 726), appeared in 1905. In the number of the *Archivos de Psiquiatria y Criminalogia* (Buenos Aires) for February, 1906, Professor Mercante has an article on 'Sentimientos estéticos del niño,' in which he gives the results of his investigations of the feelings for form, size and color among 280 children (both sexes) between 7 and 15 years of age. Among the conclusions reached are these: The esthetic feeling of woman is fluctuating and dispersive, that of man fixed and concentrated—a woman, by virtue of her dispersive affectivity (not her analytical power), is sensible to all beauties, objective and occult, physical, mental, and moral; she admires the new and the rare, the common and the trivial. The favorite color of girls is red, of boys green. Children prefer the small to the large. Forms and colors orient feelings better than size and position. Regularity and symmetry do not always fascinate. Age, and study, in the primary cycle do not determine elemental esthetic tendencies, principles of variation, etc.

III. ITALIAN.—The newly-established *Rivista di Psicologia applicata alla Pedagogia ed alla Psicopatologia*, published in Bologna by Professor G. C. Ferrari, the head of the Emilian Medico-Pedagogical Institute (Bertaglia), and now in its second year, contains many articles of interest here. Professor Ferrari himself discusses: 'Mentalità e senso morale' (Mentality and moral sense, Vol. I., pp. 4-6); 'Pregiudizî dell'educazione' (Prejudices of education, pp. 69-73: "Defectives are now not seldom better taken care of in body and mind than are normal children; they are attended by specialists, have their labor and studies suited to their needs and capacities; innumerable normal pupils still wait for this"); 'L'istruzione dei deficienti' (Instruction of defectives, pp. 305-315: "For true defectives scholastic

instruction is *per se* useless; the medico-pedagogical institution is the most important aid"); 'Per una scienza psico-giudiciaria' (Need of a psycho-judiciary science, Vol. II., 1906, pp. 1-12: there is need not only for the 'Psychologie der Aussage' of Stern, etc., but also for the equipment of judges and magistrates with psychological knowledge, not merely for the sake of children, but for that of adults as well); 'L'educazione dell'incosciente' (Education of the unconscious, pp. 73-76: "The importance of the unconscious in the history of the race justifies its cultivation in the education of the individual: the immensity of automatic and sub-conscious life must not be let run to waste"); 'I traumi sessuali nei fanciulli' (Sexual traumas in children, pp. 90-98: human normal individuality is not a unity, but an aggregate, there being possible as many personalities as there are groups of feelings that determine conduct; at a certain age one of the most important of these, the sexual personality, develops; experience shows that exaggerated sexuality is more easily had than perverted; these personalities tend to be precociously mature). Miss V. Lamieri has an interesting article on 'Folk-lore e pedagogia' (Vol. I., pp. 26-31), in which are given briefly the results of experiments with 'proverb-plays' among the defectives of the Emilian Institute. The effect upon mental activity, memory, vocabulary, conversation, etc., has been excellent. The 'passion for proverbs' has 'wrought a revolution' in their lives. In another article (pp. 99-103) she discusses 'I giuochi delle bambine deficienti,' resuming the results of observations on defective girls at the Emilian Institute. The plays of these children show little variety and are simply products of imitation, being neither the result of the accumulation of energy, nor preparation for the serious acts of adult life (the theories applicable to normal children do not apply here). A third article by Miss Lamieri (Vol. II., pp. 107-115) treats of 'Manifestazioni poetiche in una deficiente,' specimens being given of the poetical effusions of a 14-year old girl in the Institute, the products of her periods of greater exuberance of life, robuster feeling of health, greater moral serenity, and general increase of energy—a contrast to the fits of verse-making in normal girls in the poetic mysticism of adolescence and soft periods of sentimentalism and spleen. The further study of this case will be of interest. In his article (Vol. I., pp. 19-25) on 'Psicologia ad uso dei riformatorii,' Professor C. Colucci, of the University of Naples, argues for the separation of asthenics from hyperasthenics, and the instituting of a 'pedagogic gymnastics,' adapted, like manual labor, to individual and industrial ends. In a brief discussion of 'Nostalgia' (Vol. I., pp. 74-82)—the subject is to be treated

by the author in a monograph elsewhere — A. Renda points out the affinities of this affection with melancholia. In a brief article (pp. 83-89), 'Sull'arte d'interrogare,' Professor G. Vailanti, of the Technical Institute in Florence, who is well informed with the writings of Professor William James, discusses the need for an art of questioning that will involve the effective acquisition of new ideas and new knowledge, and not the mnemonics of verbal formulæ, mere phrases, etc. Giuseppe Pennazza's articles, 'L'insegnamento oggettivo pei deficienti' (Vol. I, pp. 103-106), and 'Osservazioni sulle preferenze sensoriali elementari nei fanciulli deficienti e nei normali' (pp. 348-353), are based on experiments at the Emilian Institute. The first gives the results of experiments with pictures drawn by the teacher, to be explained by the pupils and recalled by memory; the ability shown in this was surprising. The second résumés the results of experiments on the elementary sense-preferences (smell, touch, taste, sight, hearing) of 160 male (normal 80, abnormal 80) pupils and 96 female (normal 48, abnormal 48) from the Bologna schools and the Emilian Institute. In general, there is no great difference in preferences between the normal and the abnormal pupils. The least homogeneous senses (more so in the abnormals) were hearing and sight; touch seems more evolved in the normals, hearing less differentiated in normal girls; normal male preference for green and abnormal female for square form are noted.

U. Loreta's 'Contributo allo studio del senso estetico nel fanciullo' (Vol. II., pp. 216-250, with colored plate) records observations on the author's 7-year old boy. Up to 6 his artistic manifestations consisted of the usual childish efforts, but when 7 he produced a landscape made with colored crayons, exhibiting unusual care in proportions and harmony of tints. He was then given color material, and in three months more than 100 of his drawings (for the greater part mountain landscapes — the boy lives in the country), made spontaneously and showing a certain sense for landscape, etc., were obtained. The boy did not go to school, and imitation of companions is likewise excluded, so the case is indeed a notable one. In another brief article, 'Sullo svolgimento del senso estetico nel fanciullo' (Vol. II., pp. 115-118), Loreta reports further concerning the young artist. In the eight months since the first publication his productions have become fewer and less accurate (he has begun to go to school and has had less leisure, for one reason). Loreta still refuses to see in his child any special aptitude and awaits the further development of the instinct for drawing. Professor F. del Greco, of the University of Naples, in an article on 'La

psicologia del carattere e i contributi delle ricerche psichiatriche' (Vol. I., pp. 251-263), distinguishes the two poles of human individuality: 'temperament,' which indicates the prevalent tone of the vital feeling of an individual, and 'character,' which is his 'practical individuality' (himself as he works among his own fellow-beings). Temperament turns on incommunicable sentiment-life, character on life of will and action. The value of psycho-pathological observations is pointed out. The article of Professor Giuseppina Fumagalli, of Brescia, on 'Il senso della vita nell'educazione dell'infanzia' (Vol. I., pp. 277-284) emphasizes the importance of 'the sense of life' in the history of the race and in the development of the individual. Italy has a people '*par excellence* atavic,' who in large measure preserve still the equilibrated and practical 'sense of life' which was the salient character and the glory of the Roman world. This sense of life must be educated, and with it developed the intelligence that will restore the nobility of the old Roman. E. Morpurgo's article on 'Il suicidio nei minorenni' (Vol. I., pp. 335-344), besides a general discussion of other data, treats particularly 25 cases of attempted and successful suicide in young men and women under 18, occurring in the first quarter of 1905. The causes were as follows: failure at examinations, 1; parental reproof, 3; troubles of love and friendship, 9; *indifferentia vite*, 3; mental alienation, 2; uncertain, 7. Seven cases were 16 years of age or under, three being below 14. The prophylaxis for suicide lies in rendering healthier the family environment, seeking to develop rationally the moral energies of the individual from the beginning, and in diffusing a knowledge of the danger and the advantages of puberty, etc. In a brief discussion of 'Il fascino della criminalità' (Vol. II., pp. 220-225), M. U. Masini points out the existence in more or less marked fashion, according to the stage of intellect and society, of a 'fascination of criminality,' characteristically seen in woman, for whom crime constitutes one of the most notable elements of the sexual lure; her patronage of cruelties such as bull-fights, etc.; also indicates how 'the association between the sexual function and brutality and ferocity in the past of the race still exerts a powerful influence over her.' The 'fascination' exists in man also, as the history of great criminals and their sway over 'the soul of the crowd' indicates.

In an article entitled 'Forme poco comuni di paramnesia in due giovanetti' (Vol. I, pp. 398-409) A. Lemaitre describes a case involving not the expression of 'the already heard,' but of 'the already articulated (*già-articolato*)' in a 13-year old boy, and a case of 'paramnesia with

reversed images' in another youth of like age, both healthy, sane, and above the average in intelligence. The former has photisms for the vowels, the latter a month-diagram, reversed images in dreams, etc. Dr. G. Bellei's 'Ulteriore contributo allo studio della fatica mentale nei bambini delle pubbliche scuole' (Vol. II., pp. 22-27) compares results obtained in 1900 with those of 1905, the conclusion reached on the first occasion being clearly confirmed, viz., that "owing to the great mental fatigue produced by it, the work of the pupils during the afternoon lessons is not only without advantage in their education, but is even dangerous to their health." In his discussion of "La cultura pedagogica e l'istituzione di un 'Paedagogium' nazionale," Alessandrino Gariboldi (Vol. III., pp. 28-34) advocates the institution of a 'national Pedagogium,' whose scientific function should be that of research, the collection of pedagogical and psychological facts, etc.; not a mere museum, however, but a place vivified continually by the constant labor of analysis and synthesis. Attached to it should be 'a rational school for the teaching of corrective pedagogy,' the result of medical, psychiatric, and psychological science. A proposal for a 'national Pedagogium' was presented to the Italian government in 1903 by Dr. Ugo Pizzoli. In his article on 'Gli effetti del riso e le loro applicazioni pedagogiche' (Vol. II., pp. 85-91), R. G. Assagioli looks forward to the utilization in teaching some of the phenomena having to do with laughter. One important pedagogic value of laughter is 'strong, sure and lively stimulation of attention'; another, its power to make understood and remembered things taught. The contagion and suggestivity of laughter and related phenomena are of pedagogical import. Carlo Soresi's article (pp. 100-105), 'Dei giocotoli per bambini,' is based on observations of the use of playthings by three children between 3 and 7 years of age. The conclusions of the author are, that toys should be made for children not for adults — fine mechanisms, beautiful models, etc., avail the child nothing. Play ought to be, above all, mirthful and joyous, and we ought not so early to begin to compel the child and impose upon him with toys made with the pretense of educating him, teaching him duty, and the like. In an article on 'L'onanismo precoce nei ragazzi e la sua cura psichica' (Vol. II., pp. 138-159) Professor A. Lemaitre, of Geneva, distinguishes a 'precocious' type (commencing before puberty), from that which occurs after puberty. The psychic test employed by the author (enfeeblement of topographic memory with preservation of the mathematical faculties) would not hold so well after puberty. Professor Lemaitre advocates a 'psychic cure,' with conversations *in loco paren-*

tis, gentle and natural — the most successful argument emphasizes the 'dirty' nature of the vice. In an interesting article on 'Il sentimento religioso nei fanciulli del popolo' (pp. 167-178), A. Pellottieri gives the results of his investigations among pupils of the elementary schools and the kindergarten (girls and boys) in various Italian cities and towns, little communes, etc., as to their religious feelings and ideas. The general conclusion reached is that, "in the child, if religious ideas exist, they are inactive, little indued with feeling, and without social import." Among the points noted by the author are these: Children have a myopic sense of the creation, not a sense of wonder at it; God *made* the world, that is all. Fear of God is often rather of the kind entertained toward some 'monstrous' figure. Respect for the church and its sacred milieu vanishes with the child-crowd. The feeling of worship is already less in boys than in girls. Such faith in the protection of a supernatural power as exists is rather one side of the optimism of childhood. S. Ottolenghi's article on 'L'algotmetria nella scuola' (pp. 179-186) gives algometric data concerning the five best behaved and most intelligent, the five worst behaved and five most backward pupils from one of the public schools in the city of Rome. The pain sensibility is highest developed in the most intelligent and best-behaved pupils, and most deficient in the backward. The reaction to pain is prompt with the well-behaved and intelligent and bad-behaved pupils, slow with the backward. Under the title 'Un piccolo poeta' (pp. 268-270), P. Lombroso publishes two little poems (one made in five minutes) by an 11-year old son of Ysaie, the eminent violinist and composer. The poems are in French, one called *Pour mère* the other *Sur moi-même*. A certain spirit of *jocoserie* and jesting pervades them both. Interesting is a discussion on fables for children. In a letter to the editor (Vol. I., pp. 292-296), Paola Lombroso Carrara replies to a request made in his article 'Credo quia absurdum' (pp. 129-134), giving reason for her belief in the use of fables, etc., for children. The right children have to them is the same right adolescents have to poetry and adults to science. They correspond to human needs and demands that are instinctive and intuitive. The reality or realizability of 'fables' appeals to children. They have not the exciting and noxious character which, with others, Ferrari would attribute to them. In a brief reply, 'Le favole pericolose' (pp. 353-354), Ferrari points out that fables may not harm perfectly normal children with ideal homes, parents, nurses, etc., but with others the case is different. The discussion is continued by Dr. Carlo Soresi in a brief article, 'Contro le fiabe' (Vol. II., pp. 51-53), in which the author emphasizes the

fantastic and harmful excitation due to fables with children. The fable-listening child is in the condition of an ecstatic, and this is dangerous. Little children need rather play and movement.

A valuable contribution to Italian child-study is Professor Maria Montessori's monograph on the 'Caratteri fisici delle giovani donne del Lazio' (*Atti della Soc. Rom. di Antrop.*, 1906, XII., 37-120) in which are given details of the observation of the physical characters (anthropometric) of 200 young women between the ages of twenty and thirty years from the region known as Lazium, the country about historic Rome. Two types of women, (one long-headed, low-statured, brunet; the other broad-headed, tall blond) differing in numerous somatic characters, from stature to microscopic section of the hair, are distinguished. Here may be mentioned also the same author's previous study, 'Sui caratteri antropometrici in relazione alle gerarchie intellettuali dei fanciulli nelle scuole' (*Arch. p. l'Antrop.*, 1904, XXXIV., 243-297), based upon the study of 105 pupils of the Roman elementary schools—in which the conclusion was reached that the well-to-do and intelligent showed better development of the head, etc. A. Zuccarelli's *Osservazioni intorno alla frequenza di dati degenerativi somatici in rapporto con la condotta, in alunni di scuole secondarie di Napoli* (Naples, 1905, pp. 33) deals with degenerative stigmata in relation to conduct in the cases of one hundred individuals between twelve and eighteen years of age in the Istituto Nautico e Scuola Tecnica in Naples. A smaller proportion of degenerative marks than reported by earlier investigators was found. Of M. Pasquale's valuable study of 'Lo sviluppo fisico nei ragazzi delle scuole della Città e Provincia di Roma,' published in the *Internationales Archiv für Schul-hygiene* (1906, II., 270-297), a brief abstract in French is given in that journal, as also of Dr. G. Badaloni's study on 'La scrittura dritta e la scrittura inglese; Influenza della scrittura sulla funzione del respiro' (*Ibid.*, 227-265). Pasquale's investigations deal with 3,535 children (boys 2,005, girls 1,530) between six and fifteen years. The sex differences are noteworthy and reach their maximum as to stature between ten and fifteen. The influence upon physical development of food, habitation, work, clothing, education, are pointed out, and in particular the profession of parents. Dr. Badaloni's experiments, carried on from June, 1904, to January, 1905, lead to the conclusion that the 'English (slant) script' ought to be abandoned in favor of the straight (upright) script, the former having evil effects on respiration, etc.

Among interesting and valuable books and pamphlets may be briefly mentioned the following: M. Calcagno's *Note di psico-fisiologia*

infantile e considerazioni pedagogico-didattiche fatti sugli alunni di una prima classe elementare (Rome, 1905) is worthy of note as a psycho-physiological *aperçu* of every one of 44 elementary pupils, carefully and scientifically obtained and recorded by a teacher in the primary schools, and as a useful addition to the literature of school-life, school-atmosphere, etc. U. Loreta's *Alcune note di Pedagogia* (Bologna, 1905) treats of activity, physical education, attention, curiosity, memory, imagination, feelings, intelligence, will, religious education, punishments and rewards, plays and games, anthropological and psycho-physical observations, etc., and is highly praised by Ferrari in its second edition. L. Gualino's *Gli idioti; Note di psicologia comparata* (Turin, 1905; pp. 57) is based on observations of some 100 idiots in various institutions in Turin, and draws analogies between idiots and members of inferior races, etc. G. Montesano's *Avviamento all'educazione e istruzione dei deficienti* (Rome, 1905; pp. 70) sketches the education of defectives according to the medico-pedagogical method of the author, who founded the Scuola Magistrale Ortofrenica at Rome. R. Brugia's *I problemi della degenerazione* (Bologna, 1906; pp. xxvi, 431), which has an introduction by MorSELLI, makes much of atavism, holding that the child, like the race, passes through a stage of 'unmorality,' previous to reaching morality (really a product of civilization). A. Roster's *Femina superior* (Florence, 1906; pp. 402) sustains the thesis that woman has a higher biological, psychical, and functional index than man. Her position is not now in accord with her superiority, because man made her 'the first domestic animal,' which she largely is still. Of N. Colajanni's *Latini e Anglo-Sassoni* (2d ed., Rome-Naples, 1906; pp. xvi, 436) a French edition has lately appeared. This book—the second Italian edition is the latest form—is a comprehensive comparison of the Latin and the Anglo-Saxon 'races.' It should be read by all Americans, who wish to see what an intelligent and widely-read Italian man of science thinks, *e. g.*, of 'the pseudo-civilization' of the United States at the present moment. Paolo Lombroso and Mario Carrara's *Nella penombra della civiltà* (Turin, 1906) is a study of 15 men and 28 women belonging to the poor classes (Piedmont workmen, country-people of Novi, Sardinian women) with respect to general culture, political-social ideas, moral sentiments, etc. The uniformity of dense, profound ignorance among the poor classes is lamentable, in face of the marvellous activity now going on in the field of art and of science. And this is in spite of elementary education, for to those who may properly be styled utterly uneducated (analphabetic) must be added a

large number of 'ignorants,' who have had some elementary education at least. Women are affected as well as men, and often in unexpected places. In matter of bibliography and criticism may be cited Lina Maestrini's *Sguardo alla pedologia negli Stati Uniti ed in Europa* (Bologna, 1905; pp. 67), reprinted from the *Rivista di Filosofia e Scienze affini*. It contains an appreciative account of child study in America.

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CHILD PSYCHOLOGY.

First Steps in Mental Growth. DAVID R. MAJOR. New York, The Macmillan Co., 1906. Pp. xiv + 360.

In this volume Professor Major presents the results of extensive observations and experiments which he made upon his own child during its first three years. The material is classified under the following general headings: development of hand and arm movements; drawing; the feelings and their expression; development of imitation; color; number; form; association; memory; imagination; play; pictures; behavior of the child before his image; language; sight; hearing; learning to stand alone; learning to walk; table of measurements. The work is illustrated with figures showing the child's pencilings and efforts at drawing, and with twenty-two photographs showing certain typical motor adjustments and activities.

It has not been the purpose of the author to write a book on developmental psychology, but rather to make a contribution of valuable material for such a psychology. He therefore carefully records what he has seen and heard from day to day, but only rarely does he attempt psychological interpretations. His own observations are compared with those of Preyer, Sully, Darwin, Shinn, Baldwin and other observers, and there is a close similarity all through. Sully is apparently quoted more frequently than any one else; and the *First Steps* seems much like the *Studies of Childhood* in its point of view. In neither book does one find new conceptions of developmental methods or processes, only a readable record of particular exhibitions of children's abilities. The various manifestations of any given trait or ability are noted in the order of their appearance, but in general they are not organized psychologically, so that the author's view is given of precisely why and how one manifestation follows another.

It appears to the reviewer that Professor Major should give us another volume, in which would be worked out theories of development based upon the data presented in the book under review. It would be profitable to have a more minute description of all the stages in learning typical activities, as, for instance, throwing a ball, so that we could see just what preceded any particular stage of achievement, and the *modus operandi* of learning. The author has in this volume, and doubtless wisely, considering the purpose of the book, given us only the main events in the acquisition of any ability, and consequently a mass of details, essential to a psychology of development, have been eliminated. It would be well in a succeeding volume to be detailed and specific in describing the child's efforts, instead of saying simply, he 'tried,' etc. "Precisely what did he do in 'trying?'" is the vital question. And then, "Why did he do just this?" is the next question that the psychologist must seek to answer. The observer who sees the whole situation—what has preceded the activity of the moment, and what it leads into—should be able at least to suggest an answer to these questions. For educational purposes the queries, How? Why? In what causal relations? are far more important than simply, What occurred? or, In what temporal relation?—though the latter must be answered before we can attempt the former, of course. The author frequently makes use of the term 'learning' how to do this or that; but he really gives us a record of abilities at different stages in the learning process, rather than a psychological account of how the learning proceeded. To describe the learning of any act requires that one show just how each step is taken and why, so that we may see the entire process as a unity, each factor or element of which is causally related to what precedes and what follows.

The photographs exemplify a kind of work that should be done much more extensively in the study of mental development. But they also need interpretation. Like the text, they present data which in isolated form have little significance for a theory of development, but they constitute valuable material for treatment in the spirit of developmental method.

In marked contrast to most current literature on mental evolution, the *First Steps* does not make use of the hypothesis of recapitulation in accounting for any of the phenomena of development. In certain instances, as in the treatment of fear, an attempt is made to show that the prevailing theory of the recapitulatory character of the child's early fears is unsound. It appears to the reviewer that the author is hardly consistent in his positions on this topic. He follows Sully in

ascribing fears of cats, dogs, insects, horses, wild animals, strangers, etc., etc., to the disturbing effects upon the child's unstable nervous system of strange and powerful sense impressions. But he cites instances of violent, convulsive fears where the exciting sense stimulus is practically nil, so far as its mere physical character is concerned. And to say that strange experiences arouse fear is simply stating a fact, not accounting for it. It is doubtful anyway if all novel experiences arouse fear; Sully and Major both give only a very limited number of such fears, just those which offhand one would say might be accounted for by recapitulation. Then Major cites cases of a continuance of a fear, as of a cat, which lasted for many days, though the animal was in the environment constantly. It would seem that the child's fear reaction outlasted for a considerable period mere strangeness in the object; and the stimulus could not be regarded as continuing to be 'powerful.' The fact seems to be that stimuli have the qualities of 'strangeness' and 'powerfulness' not because of any inherent quality, but because of the meaning which the child puts into them; and the recapitulationists appear to have the argument in their favor when they claim that this meaning in the case of the fears given by Professor Major is the product, not of individual but of racial experience.

It may be added that Professor Major's book is very readable, more so than most of those that treat the subject of mental development as it does. It will be enjoyed not only by psychologists, but also by teachers and thoughtful parents. It should help to convince skeptical persons that one may make a profitable and agreeable business of studying the development of his children.

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Comment doit-on mesurer la fatigue des écoliers? M. C. SCHUYTEN. Rapport au I^{er} Congrès international d'Hygiène scolaire à Nuremberg, 1904. Archives de Psychol., 1905, IV., 113-128.

Binet and Schuyten have sought to rehabilitate æsthesiometry as a practical and accurate method of testing mental fatigue. Schuyten's investigations, considerably less detailed and comprehensive than Binet's,¹ turn on a comparison between the dynamometer and the æsthesiometer as instruments of testing fatigue, a comparison in which the dynamometer has decidedly the worst of it.

The problem of determining with scientific rigor whether school work is carried on more advantageously in the morning than in the afternoon furnished the point of departure for the tests. Five school

¹ *Année Psychol.*, XI., 1-37; see review in *PSYCHOL. BULLETIN*, III., p. 110.

children were tested with the dynamometer in the morning with an average result registering 63. The same group subjected to the same test in the afternoon gave an average result of 60.3. The first interpretation likely to be made is that the dynamometer has served as a test of the fatigue of the school day. But Schuyten subjected another group of five children to the same test, this time beginning in the afternoon. The average result of the afternoon was 68.3. On the morning following the test was repeated, giving a result of 64.2. Clearly the dynamometer does not test the fatigue of the school day, the author infers, but the interest which children have in a novel experience. A parallel test with the æsthesiometer was arranged. No particulars as to the technique of the test are given. From the morning-afternoon test the average result of the morning was a minimum discrimination of 7.8 mm.; of the afternoon, 11.3 mm. But the decrease in tactual sensitiveness thus evidenced may be equivocal. Is it due to failing interest as the novelty wears off, or is it due to fatigue? To answer this question an afternoon-morning test was made on a different group of children. The afternoon test gave an average result of 11.4 mm. The test of the morning following, 8.3 mm. These figures clearly indicate, concludes the author, that the æsthesiometer has tested not interest in novelty but fatigue itself.

The author admits that the data are too few for the final determination of the matter. It is a little strange, perhaps, that data so readily multiplied should not have been obtained in sufficient abundance to establish, or possibly to undermine still further, the validity of a method so long under suspicion as that of testing fatigue by æsthesiometry. Nevertheless the comparatively few data presented are sufficiently striking to lend considerable color to the inference that the dynamometer is a poor second to the æsthesiometer as a test of fatigue.

Observations sur le langage intérieur des enfants. AUGUSTE LEMAITRE. Archives de Psychol., 1904, IV., 1-43.

The interest in mental imagery, particularly in the imagery of language, as represented in the studies of Egger, Galton, Stricker, Ballet, and Saint-Paul, M. Lemaître has specialized in the direction of the language imagery of children. This monograph opens with an extended résumé of the author's recent book, *Le langage intérieur chez les enfants*, followed by descriptions of eighteen newly observed cases, several of which border on the unusual if not on the abnormal. The variety of imagery which may be associated with the language function receives fresh emphasis. *Verbo-moteurs, verbo-auditifs, verbo-*

visuels, symbolo-visuels, auditivo-visuels, visuelo-moteurs, équilibres, descriptive terms employed by the author to characterize the chief types of language imagery encountered, if not in every instance self-explanatory, are at least indicative of the extent of psychical territory that may be covered in this hunt for new specimens. The method of obtaining data is still, apparently, that of informal interrogation. M. Lemaître's statement of results and conclusions contains several exceedingly suggestive remarks. According to M. Lemaître's general observation, fortified by an experimental test, the visual and auditory types of memory are much superior to the motor type. The exceptions seem to prove the rule. Occasionally a *moteur* will be found whose memory is remarkable. Further inquiry has revealed, however, that this is the result of unusual effort in fixing upon points to be retained. It is a cultivated virtue. To the visual and auditory types memory comes naturally or with much less conscious effort.

M. Lemaître presents fresh observations on the point that visualists manifest the strongest æsthetic dispositions. Children of this type are more facile than those of either the auditory or motor type in reproducing from memory scenes they have witnessed and in drawing designs. In regard to intellectual disposition, the auditory type seems to stand midway between the motor and the visual, seizing with equal facility the abstractions of the former and the concrete particulars of the latter.

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Street Games of New York City. JOHN CHASE. Ped. Sem., 1905, XII., 1.

The writer kept records of games played by children in a certain section for two years, and concluded that the ten games most played (which are different from lists obtained from children) show the fire and gambling instinct to be strong, that these popular games are going generally at the same time of the year, and that running games, such as tag and prisoners' base, are replaced by cramped games like leap-frog and hop scotch.

How Children Learn to Read; an Experimental Study. LUCINDA PEARL BOGGS. Ibid.

She tested four children under school age with cards on which was a Greek letter, a syllable or phonogram, a familiar word and a simple sentence. These were printed on cards and were shown a line at a time, the experimenter naming and the children repeating after

her. After this they were exposed again and the child named all he could, and was again told those he could not name. In this way the number of exposures required to learn each element was determined.

In all cases the sentence was recognized with fewer repetitions than the words and the words than the syllables, while in cases where children had not had any letters, syllables were recognized more readily than the letters. The result of this test brings out what cannot be too much emphasized in teaching — the importance of content and interest, as compared with form, however simple, without content or interest.

Studies of a Child, III. ALEXANDER and ISABEL C. CHAMBERLAIN. Ibid.

This is a continuation of the various specific facts recorded by Dr. and Mrs. Chamberlain. These interesting records cannot well be summarized. The facts are grouped under the following suggestive heads: Discourses, Favorite Books, Language, Nature Study, Observations on seeing Pictures, Original and Peculiar Words, Original Languages, Sentences.

Pedagogy of History. G. STANLEY HALL. Ped. Sem., 1905, XII., 3.

In the grammar grades the scientific aspects of history should be subordinate, nor should knowledge of sources and habits of turning to them be most prominent, nor can civic interest be made prominent, because it is not great in girls and not yet fully awakened in boys. Finally, enlargement of mental horizon helps the youth to his rich ancestral heritage of great deeds. The dominant purpose in teaching history should be to develop moral character. To this end myths, often rejected by scientific history, are invaluable. The child should live again the life of the race. Other purposes are important, but this is the supreme one. Teachers should give much more than they expect to get back in recitation and examination.

Obstinacy and Obedience. THEODATE L. SMITH. Ped. Sem., 1906, XIII., 1.

Facts in large numbers regarding these phenomena as they ordinarily occur cannot be obtained readily in any other way than by a *questionnaire*, hence this method was very properly used. Reports of 668 cases classified as obstinacy, 148 as wilfulness, 341 as contrary mindedness, 261 as disobedience, including an element of obstinacy,

and 237 cases of animal obstinacy were obtained. The physical signs of those said to be obstinate are so opposite that there is good reason to believe that the mental states were entirely different. Individuality is marked, however, and in many cases one who knows the child or animal can tell when a spell of obstinacy is approaching.

So-called cases of obstinacy are sometimes simply strong instinctive tendencies, *e. g.*, running away without motive or special occasion. Insufficient food, over-eating, especially of sweets, are often causes of obstinacy. Mentally deficient children are often obstinate. Of mental causes injustice is a frequent one. In some reminiscent reports of obstinacy the seeming powerlessness of the individual to end the obstinate state is a marked feature, while in other cases the individual is continually affirming 'I won't.' Institutional obstinacy was given special study, many facts being found to indicate that continuous living under strict rules tended to produce obstinacy or occasional outbreaks of it. Individual treatment usually decreases obstinacy.

Questions regarding the most obedient children indicated that such children were strong willed and had been trained in a reasonable way to obey from a very early period.

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E. A. KIRKPATRICK.

HANDWRITING AND INTELLIGENCE.

Accuracy in Handwriting as related to School Intelligence and Sex. ARNOLD L. GESELL. *Amer. J. of Psychol.*, July, 1906.

Teachers in all the nine grades of the schools of Worcester were asked to furnish specimens of the writing of the three best and three poorest writers in their schools, also of the three pupils having the highest and the three having the lowest standings in school work. They were also asked to grade all these pupils as to School Intelligence, General Intelligence, Motor Ability, and Facility in Writing. The results are as follows :

	Sex.		School Intelligence.				General Intelligence.				Motor Ability.			Facility in Writing.		
	Boys.	Girls.	Very Good.	Good.	Fair.	Poor.	Very Good.	Bright.	Average.	Dull.	Clever.	Average.	Clumsy.	Race.	Moderate Race.	Effort.
Best writers.	122	193	86	105	82	30	12	122	168	25	124	174	13	187	115	10
Poorest writers.	238	77	26	54	92	88	50	60	160	95	18	124	152	52	103	148
Highest in school work.	147	168	236	64	5	—	—	269	46	—	159	146	17	171	111	26
Lowest in school work.	174	141	—	—	22	123	170	11	97	204	23	149	137	56	141	104

Papers from a school for feeble minded children show similar marked correlation between writing and intelligence. Figures for each grade are unfortunately not given, but it is stated that in this respect there is slight variation. The large proportion of poor writing among the boys and of good writing among the girls is even more marked when the very best and the very poorest specimens are selected, and is still more marked in the specimens of the writings of high school pupils, 76.6 per cent. of the best being by girls and 80 per cent. of the worst by boys.

The correlation between writing and intelligence seems to be closer than for any other of the numerous tests of intelligence that have been made, while the difference between the sexes is much greater. But it should be remembered that the kind of intelligence shown in good writing is probably the chief kind of intelligence upon which the average teacher grades pupils and judges of their ability. After a pupil has learned to write, interest passes to the ends to be gained by writing, hence girls as they grow older write well because good writing is asked for and praised, while boys follow their interests, cease to improve and often become poorer writers. This interpretation corresponds well with the fact stated by the author that up to the fifth grade as many of the boys are best writers as girls, while after that the number of best writers is much greater for the girls. Theory as well as tests of normal children and experience with feeble-minded children indicate that sensory motor activities such as writing are correlated with the earlier stages of mental development, but not with the higher stages. This accords with the author's data showing that sex differences are less and correlations with intelligence greater in the case of feeble-minded children.

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BOOKS RECEIVED FROM OCTOBER 5 TO
NOVEMBER 5.

- Le sens de l'Art, sa nature, son rôle, sa valeur.* P. GAUTIER.
Preface by E. BOUTROUX. Paris, Hachette, 1907 (for 1906).
Pp. xxxii + 269 (with 16 figures).
- Les substituts de l'âme dans la psychologie moderne.* N. KOSTYLEFF.
Paris, Alcan, 1906. Pp. xx + 228. Fr. 4.
- Lehrbuch der psychologischen Methodik.* A. LEHMANN. Leipzig,
Reisland, 1906. Pp. viii + 131.
- Everyday Ethics.* ELLA L. CABOT. New York, Holt, 1906.
Pp. xiii + 439.
- Concepts of Philosophy.* A. T. ORMOND. New York, Macmillans,
1906. Pp. xxvii + 722.
- Motor Apparatus of the Eye.* G. T. STEVENS. Philadelphia,
Davis Co., 1906. Pp. xiv + 496.
- The Evolution of Immortality.* C. T. STOCKWELL. Boston, West
Co., 1906. Pp. 190.
- Ciò che è vivo è ciò che è morto della filosofia di Hegel.* B. CROCE.
Bari, Laterza, 1907 (for 1906). Pp. xvii + 282.
- Introduction to Philosophy.* G. S. FULLERTON. New York and
London, Macmillans, 1906. Pp. xiii + 322.
- Congress of Arts and Science, Universal Exposition, St. Louis,
1904.* Ed. by H. J. ROGERS. Vol. V. Biology, Anthropology,
Psychology, Sociology. Pp. ix + 890. Vol. VI. Medicine, Tech-
nology. Pp. ix + 742. Boston and New York, Houghton,
Mifflin, 1906.
- What's Next? or, Shall a Man Live Again?* Opinions and quota-
tions, compiled by CLARA S. ELLIS. Boston, Badger, 1906.
Pp. 289.
- Proceedings of the American Association for the Advancement of
Science; 55th Meeting, New Orleans, 1905-6.* Publ. by the
Association, 1906. Pp. 589.

Dictionnaire international des écrivains du monde latin. ANGELO DE GUBERNATIS. Rome, The Author; Florence, Soc. Tipografica, 1905. Pp. xii + 1506. [A beautiful work, a 'Who's Who' of Latin writers, containing also a judicious selection of men of other races. A supplement to this very valuable work is also announced, containing additional names and a general Index.—J. M. B.]

NOTES AND NEWS.

DR. IRVING KING, of the University of Michigan, and Dr. Felix Arnold, of New York, are to give three lectures each in Baltimore the third and fourth weeks of November, in the course on Educational Psychology for Teachers opened by Professor J. Mark Baldwin's lectures now being delivered.

WE note the announcement of the founding of the *Biophysikalisches Centralblatt* (Borntraeger, Berlin; ed. by Oppenheimer and Michaelis; subsc. 30 marks). It is intended to serve as a 'Centralblatt für die gesamte Biologie.'

THE 'Gesellschaft für experimentelle Psychologie' has organized an 'Institut für angewandte Psychologie und psychologische Sammel-forschung' (Berlin-Wilmersdorf, Aschaffenburgstr. 27), which it is proposed to make a central station for the organization of general investigations having a practical bearing (pedagogical, juristic psychology, etc.) and for collections of psychological material. The topics proposed for immediate investigation include the development of speech and thought in early childhood, psychology of testimony, tests of intelligence, development of unusually gifted individuals, etc. The institute will publish an organ, the *Zeitschrift für angewandte Psychologie und psychologische Sammelforschung*, to begin in 1907, edited by William Stern and Otto Lipmann.

NEW editions of Professor Baldwin's *Mental Development: Methods and Processes* (3d ed., 7th printing, revised and entirely reset) and *Social and Ethical Interpretations* (4th ed., 6th printing, revised) are in press for immediate issue (Macmillan Co.).

THE following is taken from the press:

PROFESSOR G. V. N. DEARBORN, of Tufts College, has been appointed lecturer and instructor in the relations of body and mind in the Sargent School of Physical Education, Cambridge.

